

## Recurrent epistaxis: microscopic endonasal clipping of the sphenopalatine artery

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Epistaxis is one of the most challenging conditions for the ENT surgeon. It may have local or systemic causes. Epistaxis can be mild or severe and in certain cases, life-threatening.

In patients, critically ill, like those suffering from multiple trauma, metabolic disease or cardiovascular disorders and requiring a high dose anticoagulant therapy, nasal hemorrhage is not an uncommon problem. In these patients securing a safe airway and an intravenous line have first priority. Once this has been achieved a nasal bleeding can generally be controlled by an anterior and/or posterior nasal package or by placing an anteroposterior endonasal balloon. However, if the bleeding persists surgical procedures are necessary. The microscopical endonasal clipping of the sphenopalatine artery provides a safer, quicker and effective means for controlling recurrent epistaxis.

### TECHNIQUES

After the patient has been stabilized and the immediate life-threatening conditions have been assessed, the ENT surgeon can treat the direct cause of nasal bleeding. The microscopical endonasal clipping of the sphenopalatine artery is an easy procedure: local or general anesthesia can be used depending on the patient's general condition. All nasal secretions and blood clots are removed with a Frazier tip suction. Moistened cottons with a local vasoconstrictor (oxymetazoline hydrochloride, phenylephrine) are placed into the nasal cavity in the middle and the inferior meatus and removed after 5-10 minutes. While the patient is lying on the operating table a "donut" is placed under his head. The surgeon sits on the opposite side of the nasal fossa involved. With the aid of a Prades bivalved autostatic nasal speculum and through the operating microscope with a 200 or 250 lens and a 6x magnification, the inferior turbinate is luxated downwards and the middle turbinate upwards. Then the middle meatus and the corresponding portion of the lateral wall become visible and xylocaine 1% and epinephrine 1:100,000 are infiltrated.

By means of a Beaver knife, an inverted U-shape incision is made on the middle meatus mucosa to create a subperiosteal flap; beginning posteriorly 8 mm from

tail of the middle turbinate the knife is moved forward 2 cm. The flap is put against the nasal septum. Although the mucosal detachment is performed in the middle meatus it is possible to find the sphenopalatine's orifice because it is behind the tail of the middle turbinate. The artery becomes visible and after preparing it from the surrounding tissue for the length of a centimeter pulsations can be observed. The artery is clipped satisfactorily by a Weak pistol grip hemoclip applying forceps.

The flap is then folded back into its original position and is kept there by a small piece of oxycel cotton.

Packing is usually not necessary. Bleeding points are electrocoagulated.

#### RESULTS

Since 1978, very good results have been obtained with this technique in our ENT department. In about 100% of the patients our treatment was succesful. In the last year 17 operations of this kind have been carried out to treat epistaxis of multiple causes:

- 1) eight patients with cardiovascular disease with anticoagulant therapy;
- 2) four patients who where hypertensive with recurrent posterior epistaxis;
- 3) one patient with post-Vidian neurectomy with transoperative lesion of the sphenopalatine artery;
- 4) four patients with unknown cause.

Only one hemoclip was used for clipping the artery and in all 17 cases a good postoperative response without further bleeding followed.

#### CONCLUSION

The advantages of this technique are numerous. It can easily be carried out under local anesthesia in patients with a poor general condition and a minimal number of instruments is needed, so that unnecessary delays are prevented. It is less traumatic than the maxillary artery ligation by a Caldwell-Luc approach. It is a safer, quicker and easier procedure which must be considered in cases of epistaxis.

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